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Attitudes of nurses towards euthanasia and towards their role in euthanasia: A nationwide study in Flanders, Belgium

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ABSTRACT

Background: Nurses have an important role in caring for terminally ill patients. They are also often involved in euthanasia. However, little is known about their attitudes towards it.
Objectives: To investigate on a nationwide level nurses' attitudes towards euthanasia and towards their role in euthanasia, and the possible relation with their socio-demographic and work-related characteristics.
Design and participants: A cross-sectional design was used. In 2007, a questionnaire was mailed to a random sample of 6000 of the registered nurses in Flanders, Belgium. Response rate was 62.5% and after exclusion of nurses who had no experiences in patient care, a sample of 3321 nurses remained.
Methods: Attitudes were attained by means of statements. Logistic regression models were fitted for each statement to determine the relation between socio-demographic and work-related characteristics and nurses' attitudes.
Results: Ninety-two percent of nurses accepted euthanasia for terminally ill patients with extreme uncontrollable pain or other distress, 57% accepted using lethal drugs for patients who suffer unbearably and are not capable of making decisions. Seventy percent believed that euthanasia requests would be avoided by the use of optimal palliative care. Ninety percent of nurses thought nurses should be involved in euthanasia decision-making. Although 61% did not agree that administering lethal drugs could be a task nurses are allowed to perform, 43% would be prepared to do so. Religious nurses were less accepting of euthanasia than non-religious nurses. Older nurses believed more in palliative care preventing euthanasia requests and in putting the patient into a coma until death as an alternative to euthanasia. Female and home care nurses were less inclined than male and hospital and nursing home nurses to administer lethal drugs.
Conclusions: There is broad support among nurses for euthanasia for terminally ill patients and for their involvement in consultancy in case of euthanasia requests. There is, however, uncertainty about their role in the performance of euthanasia. Guidelines could help to make their role more transparent, taking into account the differences between health care settings.

What is already known about the topic?

- Nurses' involvement in euthanasia is found in several studies worldwide, and raises a lot of questions about their opinions and attitudes towards this practice and even more towards their role in it.

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- Until now such attitudes studies were rather small-scaled, always conducted in a climate of illegality, or often limited to the theme whether or not to legalize euthanasia.

What this paper adds

- Opinions and attitudes of a representative sample of nurses towards euthanasia and towards their role in it in a country where euthanasia is legalized.
- There is broad support among nurses for euthanasia for terminally ill patients and for their involvement in consultancy in case of euthanasia requests. The acceptance of euthanasia is higher than the willingness to be personally involved in it, especially in case of administering the lethal drugs.
- Clinical practice predominates concrete legal regulations, as an explicit statement in legal documents – in this case in the Belgian euthanasia law – that euthanasia has to be performed by a physician, seems not to restrain nurses to be willing to administer lethal drugs.
- Differences between health care settings and work-place relations should be taken into account in making up guidelines, wherein the role and practice of nurses in euthanasia has to be made as clear as possible.

1. Introduction

Robust incidence studies have shown that euthanasia, i.e. the administering of drugs with the explicit intention to end the patient's life at the patient's explicit request, occurs in medical practice in Europe, the United States, and Australia (Kuhse et al., 1997; Meier et al., 1998; van der Heide et al., 2003, 2007; Seale, 2006a). It is plausible that nurses, as one of the largest groups of health care professionals, whose role frequently encompasses the care of terminally ill patients, will be confronted with requests for euthanasia. Various studies conducted in different countries have not only confirmed this but have also shown that nurses are often explicitly involved in the euthanasia process itself (De Beer et al., 2004; De Bal et al., 2008). About one nurse in four has at some point been confronted with a euthanasia request from at least one patient. Nurses are sometimes consulted by physicians concerning these requests, and occasionally play a role in the performance of euthanasia, ranging from being present during the act to actually administering the lethal medication (Kuhse and Singer, 1993; Asch, 1996; Ferrell et al., 2000; Tanida et al., 2002). However, differences are observed between subgroups of nurses especially when clinical practice is taken into consideration (Bilsen et al., 2004; Inghelbrecht et al., 2008; van Bruchem-van de Scheur et al., 2008). Nurses' substantial involvement in euthanasia raises a lot of questions about their own opinions and attitudes towards this practice and even more towards their role in it. Until now, however, studies investigating these opinions and attitudes are either small-scaled or performed in the context of illegality. Furthermore, little is known about the socio-demographic and work-related characteristics, such as age, religion and nursing specialty (Kitchener, 1998b; Ryynanen et al., 2002; Verpoort et al., 2004a) in relation to these opinions and attitudes.

In Belgium, where this study was done, euthanasia is legalized since 2002 (Ministry of Justice, 2002), allowing euthanasia to be performed only by physicians and under carefully delineated conditions (Deliens and van der Wal, 2003). This law mainly addresses the involvement and responsibilities of physicians (Bosshard et al., 2008), and does not address the liabilities of nurses, except for two minor stipulations. The first mandates the physician to discuss the patient's euthanasia request in advance with the nursing team in regular contact with the patient (article 3, paragraph 2.4). The second (art. 14) states that nobody – by implication including nurses – can be forced to cooperate in the performance of euthanasia. Also in the debates that preceded euthanasia legalization in Belgium, the voices of nurses were rarely heard (Broeckaert, 2001). Health care institutions have recognised these gaps in the law concerning nurses' role and gave explicit attention to this issue in their written ethics policies and guidelines on euthanasia (Gastmans et al., 2006). Also professional nursing organisations in Belgium are working on the legal position of nurses in euthanasia.

Studying nurses' opinions on euthanasia and on their role in it may give additional important information refining and clarifying their found involvement in this practice. As this study is done in one of the two countries with a euthanasia law worldwide, it may also reveal some interactions and implications of possible legislative changes about euthanasia in other countries. More in general, it may contribute to the societal and ethical debate on euthanasia, particularly from a nursing perspective (Berghs et al., 2005), and to the call of nurses in various international studies for greater clarity on role assignment (De Bal et al., 2008) and appropriate professional guidelines.

The objective of this study is to investigate on a nationwide level attitudes of nurses towards euthanasia and towards their role in euthanasia, and to detect differences in attitudes between groups of nurses based on their socio-demographic and work-related characteristics.

2. Methods

2.1. Study design

In 2007, a postal questionnaire was sent to a random sample of 6000 nurses in Flanders, the northern Dutch-speaking region of Belgium where approximately 60% of the population lives. The sample was taken from a federal government database based on statistics from the educational department and the Provincial Commissions. In Belgium, nurses are registered in the province where they work. In the database, 153,586 nurses were registered. We ascertained by means of a small study whether the database could be applied for current study which was positively evaluated. Next, a sample frame of 75,037 nurses was defined by including only those whose place of residence was known (95% of the cases) and who were living in Flanders. Only nurses who were 55 years or less were included to enhance the chances of including

working nurses in the sample. Based on their responses on the questionnaire, nurses without any experiences in patient care were also excluded.

The study was performed between August and November 2007. The questionnaire was sent together with a letter of recommendation signed by the two major nursing professional organisations in Flanders. In order to improve the response rate, the survey was conducted by the principles of the Total Design Method (Dillmann, 1991), including several follow-up mailings. The Ethics Committee of the University Hospital of the Vrije Universiteit Brussel granted ethical approval of the study design and questionnaire.

2.2. Questionnaire

The questionnaire consisted of pre-structured questions and was developed in different phases. After studying the literature, a draft questionnaire was developed which was reviewed thoroughly by different experts on the topic (an ethicist, a health scientist, a medical sociologist, and two nurses, all experienced in end-of-life research) and discussed in a focus group (including a palliative home care nurse, a psychologist specialising in palliative care, and two nurses working in policymaking on euthanasia). Cognitive testing (Collins, 2003) was finally conducted with 10 nurses to assess comprehension of the questions and answer categories, and question wording.

The questionnaire consisted of 3.5 pages and required approximately 10–15 min to complete. We asked about the nurses' experiences in patient care, in caring for patients at the end of their lives, and in caring for patients for whom – according to the nurses – one or more medical end-of-life decisions with a possible or certain life-shortening effect (such as decisions to withhold or withdraw potentially life-sustaining treatments, decisions to intensify the alleviation of pain/symptoms which may have a life-shortening side effect and decisions to administer drugs explicitly intended to hasten death) were made. Next, we presented 30 statements about the acceptance of euthanasia and other medical end-of-life decisions with a possible or certain life-shortening effect and about the nurse's role in those decisions. Agreement with each statement was measured on a 5-point Likert scale. As the focus in this paper is on euthanasia and the nurse's role in euthanasia, the 13 statements dealing explicitly with euthanasia are retained. Explored characteristics of nurses included sex, age, educational level, religion/philosophy of life and importance of religion/philosophy of life in professional attitude toward medical end-of-life decisions, years of experiences as a nurse, principal work setting in the last 12 months, work task in the last 12 months, and whether or not they had received any training in palliative care.

2.3. Data analysis

For nurses' characteristics and the attitude statements, percentages were presented and multinomial 95% confidence intervals (exact method) calculated. Logistic regression models were fitted for each statement to determine the relation between socio-demographic and work-related characteristics and nurses' attitudes. The dependent variables (the 5-point Likert type scale of the statements) were collapsed in a binary outcome: 'agree' (combining 'strongly agree' and 'agree') against the other categories ('neutral', 'disagree', and 'strongly disagree'). For each regression, interactions were explored. The analyses were performed using StatXact6 (Cytel Studio, Cambridge, MA) and SPSS16.0 (SPSS Inc., Chicago, IL).

3. Results

Of the 6000 questionnaires sent, 23 were returned because the respondent could not be reached and 3733 responded to the questionnaire (response rate, 62.5%). Age and sex in this group were compared with the selected sample frame ($N = 75{,}037$) and were similar with respect to age, but differed in the distribution of sex with a smaller proportion of male respondents in the response group (12% vs. 14% in the sample frame) (data not shown). Of the group that responded to the questionnaire, 412 were excluded: 191 had never finished their nursing education, 2 were living outside of Flanders, 5 were French-speaking, 208 reported never having worked in patient care, and 6 did not give an answer to half or more of the attitude statements. A total study sample remained of 3321 nurses of whom 88% was female, 77% older than 36 years, and 63% Catholic (Table 1). Fifty-two percent worked in a hospital. Ninety percent had once cared for a patient at his/her end-of-life.

3.1. Attitudes towards euthanasia

Ninety-two percent of nurses accepted euthanasia for patients with a terminal illness with extreme uncontrollable pain or other distress (Table 2). Fifty-seven percent were supportive of life-ending without the patient's request when the patient is suffering unbearably and not capable of making decisions. Seventy percent of nurses thought that sufficient availability of good palliative care prevents almost all requests for euthanasia. Putting the patient into a coma until death was for 26% a better alternative to euthanasia. However, 44% of nurses disagreed with that statement.

3.2. Attitudes towards nurses' role in euthanasia

Sixty-one percent of nurses agreed that a patient would be more likely to address his/her euthanasia request to a nurse rather than to a physician (Table 2). Eighty-nine percent of nurses agreed with nurses' involvement in euthanasia discussion. Concerning the administering of lethal drugs, more variation was reported. A third of nurses (33%) would in no case be prepared to administer lethal drugs; however, 43% would. Sixty-one percent of nurses disagreed with the statement that administering drugs in case of euthanasia could be a task that nurses are allowed to perform. Fifty-three percent agreed that the task of the nurse is restricted to patient and family care.

Table 1
Characteristics of the study population ($N = 3321$)[a].

Socio-demographics	*N*	%	[95% CI][b]
Sex			
Men	410	12.4	[11.1–13.7]
Women	2909	87.6	[86.3–88.9]
Age			
22–35	756	22.9	[21.1–24.6]
36–45	1371	41.5	[39.4–43.5]
46–55	1180	35.7	[33.7–37.7]
Educational level			
Diploma/associate degree	1504	45.5	[43.4–47.5]
Baccalaureate degree	1691	51.1	[49.0–53.2]
Master's degree	114	3.4	[2.8–4.3]
Religious affiliation/philosophy of life			
Catholic	2051	62.5	[60.3–64.8]
Protestant	16	0.5	[0.2–0.9]
Other religion	46	1.4	[0.9–2.0]
Religious, but not a particular church	682	20.8	[19.0–22.7]
Non-religious (specific philosophy)	132	4.0	[3.2–5.0]
Non-religious (no specific philosophy)	352	10.7	[9.4–12.2]
Self-reported importance of religion/philosophy of life in their professional attitudes towards medical end-of-life decisions			
(totally) not important	1252	38.1	[36.1–40.1]
Neutral	957	29.1	[27.2–31.0]
(very) important	1079	32.8	[30.9–34.8]

Work-related characteristics and experiences	N	%	[95% CI][b]
Experience as a nurse, years			
Mean ± S.D.	16.1 ± 8.6		
Median [interquartile range]	16 [9–23]		
Work status in last 12 months			
Full-time	1394	42.1	[40.1–44.2]
Part-time	1570	47.4	[45.3–49.5]
Unemployed	347	10.5	[9.2–11.8]
Work task in last 12 months			
Nurse	2457	74.2	[72.1–76.2]
Head nurse	220	6.6	[5.6–7.9]
Supervisor of practical training/instructor	89	2.7	[2.0–3.5]
Management	113	3.4	[2.6–4.3]
Other	45	1.4	[0.9–2.0]
None[c]	388	11.7	[10.3–13.2]
Principal work setting in last 12 months			
Hospital	1716	51.8	[49.6–54.1]
Nursing home	595	18.0	[16.3–19.7]
Home care	448	13.5	[12.0–15.1]
Other	196	5.9	[4.9–7.0]
None[c]	356	10.8	[9.4–12.2]
Training in palliative care			
Yes	836	25.3	[23.7–27.1]
No	2463	74.7	[72.9–76.3]
Ever cared for a patient at his/her end-of-life			
Yes	2988	90.4	[89.2–91.5]
No	317	9.6	[8.5–10.8]
Cared for a patient at his/her end-of-life in last 12 months			
No	1451	44.7	[42.6–46.8]
Yes, for less than 5 patients	977	30.1	[28.2–32.1]
Yes, for 5 or more patients	817	25.2	[23.4–27.0]
Experiences with medical end-of-life decisions in last 12 months			
No	1608	49.6	[47.5–51.7]
Yes, with less than 3 patients	786	24.3	[22.5–26.1]
Yes, with 3 or more patients	847	26.1	[24.3–28.0]

[a] Data are presented as numbers and percentages unless otherwise specified. Percentages may not add to 100 due to rounding. Missing data for socio-demographics range from 2 (sex) to 42 (religion), for work-related characteristics and experiences from 9 (work task) to 80 (experiences with medical end-of-life decisions in last 12 months).
[b] Multinomial 95% confidence intervals, exact method.
[c] 'Respondent is unemployed' or 'the function/work setting is not related to nursing'.

Table 2
Attitudes of nurses towards euthanasia and towards their role in euthanasia ($N = 3321$)[a].

	Disagree or strongly disagree		Neutral		Agree or strongly agree	
	%	[95% CI][b]	%	[95% CI][b]	%	[95% CI][b]
Statements on euthanasia						
1. The use of drugs in lethal doses on the explicit request of the patient is acceptable for patients with a terminal illness with extreme uncontrollable pain or other distress	3.7	[2.9-4.5]	4.6	[3.8-5.6]	91.7	[90.5-92.8]
2. If a terminally ill patient is suffering unbearably and is not capable of making decisions, the physician should be allowed to administer drugs in lethal doses	20.9	[19.2-22.6]	22.5	[20.8-24.3]	56.6	[54.5-58.6]
3. Sufficient availability of high-quality palliative care prevents almost all requests for euthanasia	10.2	[9.0-11.5]	20.3	[18.6-22.0]	69.5	[67.6-71.4]
4. Putting the patient into a coma until death is a better alternative than euthanasia	43.5	[41.4-45.5]	30.8	[28.8-32.7]	25.8	[24.0-27.7]
5. Permitting the use of drugs in lethal doses on the explicit request of the patient will gradually lead to an increase in the use of drugs in lethal doses without a request of the patient	48.5	[46.4-50.6]	34.3	[32.3-36.3]	17.3	[15.7-18.9]
6. Permitting the use of drugs in lethal doses on the explicit request of the patient will harm the relationship between patients and physicians	78.2	[76.4-79.9]	13.2	[11.8-14.6]	8.7	[7.5-9.9]
Statements on nurses' role in euthanasia						
1. The patient will address his or her request for euthanasia more often to a nurse than to a physician	7.7	[6.6-8.9]	31.7	[29.8-33.7]	60.6	[58.6-62.7]
2. The physician has to discuss the patient's request for euthanasia with the nurses who have regular contact with the patient	2.3	[1.8-3.0]	7.8	[6.7-8.9]	89.9	[88.6-91.1]
3. Whenever it is decided to administer drugs in lethal doses, it has to be discussed with the involved nurses	4.3	[3.5-5.2]	7.1	[6.1-8.2]	88.6	[87.2-89.9]
4. In no case, I would be prepared to administer drugs in lethal doses with the explicit intention of ending the patient's life	42.7	[40.6-44.8]	24.8	[23.1-26.7]	32.5	[30.5-34.4]
5. Administering drugs in case of euthanasia could be a task that nurses are allowed to perform	61.3	[59.3-63.3]	22.5	[20.8-24.3]	16.2	[14.7-17.8]
6. Most nurses are acquainted with which actions they are allowed to perform in case of euthanasia	35.9	[33.9-37.9]	30.3	[28.4-32.2]	33.8	[31.8-35.8]
7. In case of euthanasia, the nurse's task is restricted to the care of the patient and his or her next of kin	26.8	[25.0-28.7]	20.3	[18.7-22.0]	52.9	[50.1-55.0]

[a] Percentages may not add to 100 due to rounding. Missing data for statements on euthanasia range from 7 (statement 1) to 29 (statement 5) and for nurses' role in euthanasia from 9 (statement 5) to 21 (statement 6).
[b] Multinomial 95% confidence intervals, exact method.

3.3. Characteristics related with nurses' attitudes towards euthanasia

Religious nurses – of any denomination – and nurses who rated their religion as important in their professional attitudes towards euthanasia and other end-of-life decisions were more opposed to euthanasia than non-religious nurses and those nurses who rated their religion as not important (Table 3). Catholic nurses also agreed more often than non-religious nurses with the avoidance of euthanasia requests by good palliative care. Older nurses were more likely than younger nurses to support life-ending without the patient's request. They also believed more in euthanasia prevention by palliative care, and in sedation as an alternative to euthanasia. Bedside nurses gave more support to euthanasia than nurses working in a different function. Head nurses and nurses working in a management function gave less support to life-ending without the patient's request. Nurses who had cared in the last year for 3 or more patients for whom a medical end-of-life decision has been made agreed more often with sedation as an alternative to euthanasia than those who did not.

3.4. Characteristics related with nurses' attitudes towards their role in euthanasia

Religious nurses – especially Catholic nurses – and those who rated their religion as important agreed less often than non-religious nurses and those who rated their religion as not important with administering drugs being a possible nursing task, were more often not prepared to administer lethal drugs, and believed more often in the care restriction (Table 4). The associations found with religious nurses were also found with female nurses in comparison to male nurses. Nurses with a bachelor or master's degree were less supportive of the care restriction, and more prepared to administer lethal drugs than nurses with a basic diploma in nursing. Nurses who work at the bedside agreed less often that a patient's request has to be discussed with nurses and more often with the care restriction than nurses working in other functions. Further, home care nurses were less prepared to administer lethal drugs than nurses working in other settings. Home care and nursing home nurses gave more support to the administering of lethal drugs being a possible nursing task than nurses working in other settings.

Table 3
Characteristics of nurses supporting statements on euthanasia[a].

	Statement 1: acceptance of euthanasia		Statement 2: acceptance of life-ending without patient's request		Statement 3: prevention by palliative care		Statement 4: sedation as alternative		Statement 5: ' Slippery slope' argument		Statement 6: harm relationship with patients	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Age[b]												
22–35	[c]	[c]	1.00	1.00, 1.00	1.00	1.00, 1.00	1.00	1.00, 1.00	[c]	[c]	1.00	1.00, 1.00
36–45	[c]	[c]	1.36	1.14, 1.64	1.10	0.90, 1.33	1.34	1.07, 1.67	[c]	[c]	1.57	1.09, 2.27
46–55	[c]	[c]	1.50	1.24, 1.81	1.60	1.30, 1.97	1.82	1.45, 2.28	[c]	[c]	1.73	1.20, 2.51
Education												
Diploma/associate degree	[c]	[c]	[c]	[c]	[c]	[c]	1.00	1.00, 1.00	1.00	1.00, 1.00	[c]	[c]
Baccalaureate degree	[c]	[c]	[c]	[c]	[c]	[c]	0.82	0.70, 0.97	0.71	0.58, 0.86	[c]	[c]
Master's degree	[c]	[c]	[c]	[c]	[c]	[c]	0.72	0.45, 1.17	0.76	0.45, 1.28	[c]	[c]
Religious affiliation/philosophy of life												
Non-religious (no specific philosophy)	1.00	1.00, 1.00	[c]	[c]	1.00	1.00, 1.00	[c]	[c]	1.00	1.00, 1.00	[c]	[c]
Non-religious (specific philosophy)	0.39	0.12, 1.30	[c]	[c]	0.68	0.45, 1.03	[c]	[c]	1.54	0.84, 2.82	[c]	[c]
Catholic	0.18	0.07, 0.45	[c]	[c]	1.78	1.40, 2.28	[c]	[c]	1.91	1.30, 2.80	[c]	[c]
Protestant	0.03	0.01, 0.12	[c]	[c]	3.50	0.77, 15.79	[c]	[c]	4.42	1.48, 13.17	[c]	[c]
Other religion	0.04	0.01, 0.11	[c]	[c]	1.92	0.91, 4.09	[c]	[c]	1.75	0.76, 4.03	[c]	[c]
Religious, but not a particular church	0.29	0.11, 0.73	[c]	[c]	1.17	0.89, 1.54	[c]	[c]	1.54	0.84, 2.82	[c]	[c]
Religion/philosophy of life importance[d]												
Important (vs. neutral/not important)	0.40	0.31, 0.52	0.68	0.59, 0.79	1.59	1.33, 1.90	1.29	1.09, 1.52	1.76	1.45, 2.13		
Work task during last 12 months												
Bedside nurse (vs. other)	1.40	1.06, 1.86	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
Head nurse (vs. other)	[c]	[c]	0.67	0.51, 0.89	1.41	1.01, 1.96	[c]	[c]	[c]	[c]	[c]	[c]
Management (vs. other)	[c]	[c]	0.50	0.34, 0.74	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]
Principal work setting in last 12 months												
Nursing home (vs. other)	0.63	0.47, 0.86	[c]	[c]	[c]	[c]	[c]	[c]			[c]	[c]
Home care (vs. other)	[c]	[c]	[c]	[c]	[c]	[c]	[c]	[c]	1.34	1.04, 1.74	[c]	[c]
Training in palliative care												
Yes (vs. no)	[c]	[c]	0.84	0.72, 0.99	1.57	1.30, 1.91	[c]	[c]	0.73	0.58, 0.91	[c]	[c]
Ever cared for a patient at his/her end-of-life												
Yes (vs. no)	[c]	[c]	[c]	[c]	1.78	1.39, 2.29	[c]	[c]	[c]	[c]	[c]	[c]
Experiences with medical end-of-life decisions in last 12 months[e]												
No	[c]	[c]	[c]	[c]	[c]	[c]	1.00	1.00, 1.00	[c]	[c]	[c]	[c]
Yes, but less than 3 patients	[c]	[c]	[c]	[c]	[c]	[c]	1.02	0.83, 1.25	[c]	[c]	[c]	[c]
Yes, and 3 or more patients	[c]	[c]	[c]	[c]	[c]	[c]	1.58	1.31, 1.92	[c]	[c]	[c]	[c]

[a] Separate logistic regression models for each statement were fitted [agreement (1) vs. other (0)]. Agreement means 'agree or strongly agree'. Other means 'disagree or strongly disagree' or 'neutral'. The full description of the statements is presented in Table 2. Presented figures are odds ratios and 95% confidence intervals. Independent variables which have no significant relationships are not presented in the table.
[b] A problem of multi-collinearity between age and years of experiences as a nurse made us omit the latter.
[c] Entered in the regression but not significant and consequently eliminated form the model.
[d] Importance of religion or philosophy of life towards professional attitude on medical end-of-life decisions.
[e] Multi-collinearity occurred between experiences with caring for patients at the end of their lives and experiences with medical end-of-life decisions in the last 12 months. The first variable has been omitted, as a positive answer on the second question automatically imply a positive answer on the first.

Table 4
Characteristics of nurses supporting statements on nurses' role in euthanasia[a].

	Statement 1: euthanasia request rather to nurse than physician		Statement 2: discussion of the patient's request		Statement 3: discussion with nurses required in case of administer lethal drugs		Statement 4: never prepared to administer lethal drugs		Statement 5: administer lethal drugs: possible nurse task		Statement 6: acquainted with actions allowed in case of euthanasia		Statement 7: nurse task in euthanasia restricted to care for patient/relatives	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Sex														
Women (vs. men)	[b]	[b]	[b]	[b]	[b]	[b]	1.74	1.33, 2.29	0.31	0.24, 0.39	[b]	[b]	1.87	1.49, 2.35
Age[c]														
22–35	[b]	[b]	1.00	1.00, 1.00	[b]	[b]	[b]	[b]	[b]	[b]	1.00	1.00, 1.00	1.00	1.00, 1.00
36–45	[b]	[b]	1.11	0.84, 1.46	[b]	[b]	[b]	[b]	[b]	[b]	1.32	1.08, 1.61	1.32	1.10, 1.59
46–55	[b]	[b]	1.74	1.27, 2.38	[b]	[b]	[b]	[b]	[b]	[b]	1.50	1.22, 1.84	1.30	1.07, 1.58
Education														
Diploma/Associate degree	1.00	1.00, 1.00	[b]	[b]	1.00	1.00, 1.00	1.00	1.00, 1.00	[b]	[b]	1.00	1.00, 1.00	1.00	1.00, 1.00
Baccalaureate degree	0.78	0.68, 0.91	[b]	[b]	1.43	1.14, 1.78	0.70	0.60, 0.83	[b]	[b]	0.66	0.57, 0.77	0.63	0.55, 0.74
Master's degree	0.74	0.49, 1.12	[b]	[b]	2.14	0.98, 4.68	0.54	0.34, 0.87	[b]	[b]	0.62	0.40, 0.96	0.49	0.33, 0.75
Religious affiliation/philosophy of life														
Non-religious (no specific philosophy)	[b]	[b]	[b]	[b]	[b]	[b]	1.00	1.00, 1.00	1.00	1.00, 1.00	[b]	[b]	1.00	1.00, 1.00
Non-religious (specific philosophy)	[b]	[b]	[b]	[b]	[b]	[b]	1.27	0.77, 2.07	1.54	0.97, 2.44	[b]	[b]	0.85	0.56, 1.30
Catholic	[b]	[b]	[b]	[b]	[b]	[b]	1.92	1.42, 2.59	0.64	0.48, 0.86	[b]	[b]	1.40	1.10, 1.78
Protestant	[b]	[b]	[b]	[b]	[b]	[b]	6.40	2.17, 18.87	0.20	0.03, 1.58	[b]	[b]	2.27	0.79, 6.57
Other religion	[b]	[b]	[b]	[b]	[b]	[b]	3.86	1.97, 7.56	0.68	0.27, 1.69	[b]	[b]	1.59	0.83, 3.04
Religious, but not a particular church	[b]	[b]	[b]	[b]	[b]	[b]	1.26	0.77, 2.07	0.90	0.65, 1.25	[b]	[b]	1.13	0.86, 1.49
Religion/philosophy of life importance[d]														
Important (vs. neutral/not important)	1.21	1.04, 1.41	[b]	[b]	[b]	[b]	1.69	1.44, 1.99	0.80	0.64, 0.99	[b]	[b]	1.32	1.13, 1.54
Work task during last 12 months														
Bedside nurse (vs. other)	[b]	[b]	0.67	0.50, 0.91	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	1.42	1.20, 1.68
Head nurse (vs. other)	[b]	[b]	[b]	[b]	2.19	1.18, 4.08	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Management (vs. other)	0.43	0.28, 0.65	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]
Principal work setting in last 12 months														
Nursing home (vs. other)	[b]	[b]	[b]	[b]	[b]	[b]	[b]	[b]	0.58	0.44, 0.77	[b]	[b]	[b]	[b]
Home care (vs. other)	0.64	0.51, 0.79	0.65	0.49, 0.88	0.52	0.40, 0.68	1.44	1.15, 1.80	0.50	0.36, 0.70	[b]	[b]	[b]	[b]
Experiences with medical end-of-life decisions in last 12 months[e]														
No	1.00	1.00, 1.00	[b]	[b]	[b]	[b]	1.00	1.00, 1.00	[b]	[b]	1.00	1.00, 1.00	[b]	[b]
Yes, but less than 3 patients	1.28	1.06, 1.54	[b]	[b]	[b]	[b]	0.85	0.70, 1.03	[b]	[b]	1.48	1.23, 1.78	[b]	[b]
Yes, and 3 or more patients	1.28	1.08, 1.53	[b]	[b]	[b]	[b]	0.73	0.60, 0.88	[b]	[b]	1.72	1.44, 2.05	[b]	[b]

[a] Separate logistic regression models for each statement were fitted [agreement (1) vs. other (0)]. Agreement means 'agree or strongly agree'. Other means 'disagree or strongly disagree' or 'neutral'. The full description of the statements is presented in Table 2. Presented figures are odds ratios and 95% confidence intervals. Independent variables which have no significant relationships are not presented in the table.
[b] Entered in the regression but not significant and consequently eliminated form the model.
[c] A problem of multi-collinearity between age and years of experiences as a nurse made us omit the latter.
[d] Importance of religion or philosophy of life towards professional attitude on medical end-of-life decisions.
[e] Multi-collinearity occurred between experiences with caring for patients at the end of their lives and experiences with medical end-of-life decisions in the last 12 months. The first variable has been omitted, as a positive answer on the second question automatically imply a positive answer on the first.

4. Discussion

Nurses have a high acceptance rate of euthanasia for patients with a terminal illness with extreme uncontrollable pain or other distress and are convinced that physicians should discuss euthanasia decisions with them; however, the question of their role in performing euthanasia elicits dissent.

We used for this study an extensive nationwide nurse registration database which was positively tested on applicability for present study. We took a large sample of nurses and included only those with patient care experiences. The questionnaire was succinct and comprehensively tested. The study was endorsed by authoritative professional nursing groups. The response rate is considered as good as compared to other surveys among health care professionals (Asch et al., 1997). These factors all strengthen the validity and reliability of our results. However, at the time of the study not all provincial commissions had fully updated their database. As a consequence, there might be an underrepresentation of younger nurses. As younger nurses tend to agree less often on some statements than older nurses, prudence is warranted when interpreting some results. Furthermore, somewhat fewer men had cooperated in the study in comparison with the database. However, there were no differences in euthanasia acceptance based on sex, only for three statements concerning their role in euthanasia performance.

Flemish nurses (92%) strongly agree with the option of euthanasia for terminally ill patients. The same question has been asked to physicians in Flanders and although a large proportion was also supportive of euthanasia (78%), the percentage was significantly lower (Miccinesi et al., 2005). Five years of legislation in Belgium may have contributed to this higher acceptance among nurses as found in our study compared with the physician study performed before the euthanasia law in our country. However, this higher acceptance among nurses is in line with several studies in other countries, also in countries without a permissive legal framework towards euthanasia (Kitchener, 1998a; Ryynanen et al., 2002; Rurup et al., 2006). Furthermore, a legal climate of a country can have an influence on attitudes, but it is known that it occurs in a lesser degree than its influence it has on practices (Willems et al., 2000; Miccinesi et al., 2005). Therefore another more plausible explanation of nurses' higher acceptance may be their more personal and direct confrontation with the pain and suffering of their patients. The alleviation of pain and suffering is the nurse's primal concern (Matzo and Schwarz, 2001), and when this cannot be alleviated, nurses may believe that life-ending is a justifiable option (Verpoort et al., 2004b). This view is confirmed by bedside nurses being, according to our study, more supportive of euthanasia and by our finding that 70% of nurses believe that optimal palliative care prevents euthanasia requests. This belief in the preventive force of palliative care perhaps reflects their conviction that pain and physical suffering are the main reasons why patients wish to die (Young and Ogden, 2000). This prevention of unnecessary pain and suffering might also be the justification for the acceptance (57%) that physicians should be allowed to end the life of terminally ill patients who suffer unbearably and are not capable of making decisions. Among the nurses who reject life-ending without request are many head nurses and nurses working in management functions. Their distance from the direct confrontation with the patient's suffering may explain this rejection. However, further studies are needed to explore the motivations of nurses in their conception and differentiation of possible life-ending acts.

In some studies, it is claimed that the use of drugs to put the patient into a coma until death is considered as an alternative to euthanasia (Verpoort et al., 2004b; Seymour et al., 2007; Rietjens et al., 2008). Especially palliative care nurses adhere to that vision (Verpoort et al., 2004b). Our study shows that 26% of nurses agree with this practice being a better alternative to euthanasia. Among those who are proponents are more nurses with a lot of experiences with end-of-life decisions. Some health care institutions in Flanders do favour a policy of supplanting euthanasia by putting the patient into a coma until death and in the Netherlands, it has been suggested that this practice is already going on (van der Heide et al., 2007). We have to consider that nurses are the executors of putting the patient into a coma until death and that they experience the direct consequences and difficulties of this practice (Morita et al., 2004; Rietjens et al., 2007).

As in earlier studies (Matzo and Schwarz, 2001), we found that the acceptance of euthanasia is higher than the willingness to be personally involved in it. However, nurses clearly want to be involved in euthanasia decision-making. In practice this wish is not always granted as physicians not always consult nurses in making their decision (van der Heide et al., 2003; Bilsen et al., 2004; Seale, 2006b; Inghelbrecht et al., 2008). A legal obligation for physicians to consult nurses in euthanasia and the univocal wish of nurses to take part in decision-making seems to be not determined enough for physicians to involve nurses. As for euthanasia performance, 61% of nurses do not think that this should be done by them. However, a quite high percentage (43%) would be prepared to administer lethal drugs, although nurses are – according to current Belgian euthanasia law – not allowed to do so (Ministry of Justice, 2002). An explicit statement in legal documents – in this case in a euthanasia law – seems not to restrain nurses to administer lethal drugs. In previous studies (Kuhse and Singer, 1993; Asch, 1996; Bilsen et al., 2004; Inghelbrecht et al., 2008) it was already found that nurses administer lethal drugs although euthanasia was prohibited and although nurses would therefore find themselves in a precarious legal position. The study does not provide information which would allow conclusions to be drawn as to the circumstances in which they would actually be prepared to do so. It is probable that they would be willing to administer lethal drugs if a physician requested them to, which confirms with our findings that home care nurses are less prepared to administer lethal drugs. Delegation of such acts from physicians to nurses is less common in home care than in institutionalised care (Bilsen et al., 2004; Inghelbrecht et al., 2008). Compared to hospital nurses, home care and nursing home nurses also consider administering lethal drugs less often a task nurses

are allowed to perform. Female nurses (the vast majority) are less inclined than male nurses to administer lethal drugs, and to consider it as a task that nurses are allowed to perform. They also believe more often that the task of nurses in euthanasia is restricted to patient and family care. This reluctance by female nurses could be a result of a more care-orientated vision in females. It can be questioned whether or not gender-stereotypes (e.g. females are more care-orientated and males more act-orientated) also prevail in nursing. As masculinisation of this profession is currently increasing, much more attention should be given to the consequences for nursing practice concerning end-of-life care.

We also found that older nurses believe more in palliative care preventing euthanasia requests, in putting the patient into a coma until death as an alternative to euthanasia, and agree more often with life-ending without request. Those aspects actually concern the intensification of pain and/or symptom alleviation which was possibly in former years more common practice and – more importantly – perceived by nurses as a more common practice. We may wonder if the age difference is due to greater experience among the older nurses or to a cohort effect, i.e. a difference between younger and older generations (Kitchener, 1998b), for example due to a different societal context and/or other emphases in nursing education in former years. Another finding of our study which also confirms previous studies is that the more a nurse is religiously inspired and more particularly a Catholic, the more s/he opposes euthanasia (Asch and DeKay, 1997; Kitchener, 1998b; Verpoort et al., 2004a,b). However, we have to make nuances, as most nurses support euthanasia, even a majority of the nurses who are religiously inspired, including Catholics. Despite their church's strong moral stance against euthanasia, Catholic nurses believe that euthanasia should be an option, albeit as a last resort, as demonstrated by their belief in the efficacy of palliative care in preventing euthanasia requests.

Finally, it has to be noted that although most nurses agree with the practice of euthanasia, there is a small proportion of nurses (4%) disagreeing with this practice. We can wonder whether those nurses can work satisfactory in a system where it does take place. However, the euthanasia law have provided a clause that nobody can be forced to cooperate in the performance of euthanasia (Ministry of Justice, 2002). Requesting euthanasia should always be a right for terminally ill patients, but should never be an obligation for healthcare professionals to cooperate in it.

We conclude that there is a substantial majority of nurses supporting the practice of euthanasia for patients with a terminal illness with extreme uncontrollable pain or other distress and for their own involvement in consultancy about euthanasia requests. There is, however, uncertainty about their proper role in the performance of euthanasia. There is a mix of reasons for this uncertainty, ranging from religious convictions and sex effects to work hierarchy and possible reticence toward an active technical role for nurses. These findings have implications for policymakers and health care professionals all over the world, as nurses worldwide are confronted with euthanasia. It is important to assign nurses a task in the societal and ethical debate on euthanasia, to recognise their views in the conception of legal regulations, and especially to adequately translate their role in euthanasia in clear guidelines on the work floor, taking into account characteristics of health care settings and personal preferences.

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Contributors. Els Inghelbrecht states that she has full access to all the data in the study and has final responsibility for the decision to submit for publication. She declares that she participated in the conception and design of the study, in the acquisition, analysis and interpretation of data, and in drafting the article. She has no conflicts of interest and no financial and personal relationships with other people or organisations that could inappropriately influence their work. Johan Bilsen declares that he participated in the conception and design of the study, and in the interpretation of data; in the revision of the article critically for important intellectual content; and that he has seen and approved the final version. He has no conflicts of interest and no financial and personal relationships with other people or organisations that could inappropriately influence their work. Freddy Mortier declares that he participated in the conception and design of the study, and in the interpretation of data; in the revision of the article critically for important intellectual content; in the acquisition of funding; and that he has seen and approved the final version. He has no conflicts of interest and no financial and personal relationships with other people or organisations that could inappropriately influence their work. Luc Deliens declares that he participated in the conception and design of the study; in the revision of the article critically for important intellectual content; in the acquisition of funding; and that he has seen and approved the final version. He has no conflicts of interest and no financial and personal relationships with other people or organisations that could inappropriately influence their work.

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